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COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Fourteenth session,
Geneva, 8-18 December 1997,
agenda item 2 (d))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Other draft amendments

Segregation of dangerous goods

Transmitted by the Expert from the United States of America

1. The Sub-Committee will recall that at the ninth session, on the basis of a proposal from the expert from China, general segregation requirements were agreed to and these are currently located in 7.1.2 of the Model Regulations. At the time that these provisions were included, it was generally agreed that more comprehensive provisions could be included at a later date. While the Regulations provide specific segregation requirements for explosives, the current segregation requirements (see 7.1.2.3) for other classes of dangerous goods defer to modal regulations for further the particular segregation requirements.

2. The expert from the United States considers that it should be possible to include segregation requirements for other classes of dangerous goods in the Model Regulations that could be applicable to at least three modes of transport (i.e. road, rail and sea transport). These provisions would describe segregation requirements applicable to freight containers, road vehicles and rail wagons. Modal requirements would continue to deal with additional segregation requirements. Examples of such modal requirements include the location of rail wagons containing incompatible dangerous goods in a train; and in the case of transport by vessel, separation of goods not packed in transport units and separation of freight containers with incompatible dangerous goods.

3. It is expected that the development of segregation requirements for transport units could be accomplished over several sessions of the Sub-Committee. To provide a basis for discussion the expert from the United States offers segregation requirements drawn from US regulations. These requirements are shown in the annex to this paper. Once agreement is reached on the specifics of the segregation provisions appropriate text for including the provisions in the Regulations would need to be developed.

GE.97-24283

Annex

TABLE OF SEGREGATION

CLASS	NOTES	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3 "A"	2.3 "B"	3	4.1	4.2	4.3	5.1	5.2	6.1 TIH IA	7	8 liquids only
1.1	A	*	*	*	*	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X
1.2	A	*	*	*	*	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X
1.3		*	*	*	*	*	*	X	X	X	X	X		X	X	X	X	X		X
1.4		*	*	*	*	*	*	O		O	O	O		O				O		O
1.5	A	*	*	*	*	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X
1.6		*	*	*	*	*	*													
2.1		X	X	X	O	X				X	O							O	O	
2.2		X	X			X														
2.3 "A"		X	X	X	O	X		X				X	X	X	X	X	X			X
2.3 "B"		X	X	X	O	X		O				O	O	O	O	O	O			O
3		X	X	X	O	X				X	O					O		X		
4.1		X	X			X				X	O							X		O
4.2		X	X	X	O	X				X	O							X		X
4.3		X	X	X		X				X	O							X		O
5.1	A	X	X	X		X				X	O	O						X		O
5.2		X	X	X		X				X	O							X		O
6.1 TIH IA		X	X	X	O	X		O				X	X	X	X	X	X			X
7		X	X			X		O												
8		X	X	X	O	X				X	O		O	X	O	O	O	X		

Instructions for using the segregation table are as follows:

(1) The absence of any symbol indicates that no restrictions apply.

(2) The letter "X" in the Table indicates that these materials may not be loaded, transported, or stored together in the same transport vehicle or storage facility during the course of transportation.

(3) The letter "O" in the Table indicates that these materials may not be loaded, transported, or stored together in the same transport vehicle or storage facility during the course of transportation unless separated in a manner that, in the event of leakage from packages under conditions normally incident to transportation, commingling of dangerous goods would not occur. Notwithstanding the methods of separation employed, Class 8 (corrosive) liquids may not be loaded above or adjacent to Class 4 (flammable) or Class 5 (oxidizing) materials, except that shippers may load truckload shipments of such materials together when it is known that the mixture of contents would not cause a fire or a dangerous evolution of heat or gas.

(4) The "*" in the Table indicates that segregation among different Class 1 (explosive) materials is governed by separate compatibility provisions (see 7.1.3.1).

(5) The note "A" in the second column of the Table means that, notwithstanding the requirements of the letter "X", ammonium nitrate (UN 1942) and ammonium nitrate fertilizer may be loaded or stored with Division 1.1 (Class A explosive) or Division 1.5 (blasting agents) materials.

(6) When the Regulations require a package to bear a subsidiary hazard label, segregation appropriate to the subsidiary hazard must be applied when that segregation is more restrictive than that required by the primary hazard. However, dangerous goods of the same class may be stowed together without regard to segregation required for any secondary hazard if the materials are not capable of reacting dangerously with each other and causing combustion or dangerous evolution of heat, evolution of flammable, poisonous, or asphyxiant gases, or formation of corrosive or unstable materials.

(7) 2.3 A means the gas meets the criteria of Division 2.3 and has a toxicity of 250 ppm or less. 2.3 B means the gas meets the criteria of Division 2.3 and has a toxicity of more than 250 ppm but equal to or less than 1000 ppm. 6.1 TIH IA means the substance meets the inhalation toxicity criteria of Division 6.1 and has an inhalation toxicity of 250 ppm or less and the vapour pressure at 20 degrees Centigrade is greater than or equal to five hundred times the LC50.